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EXAMINER

RYMAN, DANIEL J

ART UNIT PAPER NUMBER

2616

DATE MAILED: 07/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/624,765	<b>Applicant(s)</b> AHMED ET AL.	
	<b>Examiner</b> Daniel J. Ryman	<b>Art Unit</b> 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14 is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 12 and 13 is/are rejected.
- 7) ☐ Claim(s) 6, 8-11 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 5/17/2006 have been fully considered but they are not persuasive. In the Response, Applicant initially asserts that "Chheda merely uses differences in pilot signal strength to set a threshold." While it is true that Chheda uses differences in pilot signal strength as a part of setting the thresholds T\_ADD, T\_DROP, and T\_COMP (see Fig. 9 and col. 15, lines 13-17), Chheda primarily uses the difference in signal pilot signal strength to determine the number of stations in the active list (see Fig. 9 and col. 15, lines 48-61, where the number of stations in the active set, see e.g. step 910: "P1 active" and step 904: "P1, P2 active", depends on, inter alia, differences in pilot signal strength, see e.g. step 916:  $P1-P2 \leq D2$  and step 918:  $P1-P3 \leq D3$ ). Simply, Chheda uses the difference in signal pilot strength, in conjunction with the number of stations already in the active list, as a way to determine when to add an additional station to the active list.

2. Applicant proceeds to assert that "Chheda neither discloses nor suggests 'the rules set requiring more stringent conditions be met to add a base station to the active list when the active list includes a first number of base stations as compared to when the active list includes a second number of base stations, the first number being greater than the second number.'" Again, Examiner, respectfully, disagrees. Chheda discloses that in order to add a base station (P3) to the active set when two base stations are already in the active set (P1 and P2, where step 904 requires that P1 and P2 be placed in the active set if P3 fails step 918, such that, when step 918 is performed, P1 and P2 are already determined to be in the active set), the pilot strength of the third base station must not be more than 5 dB weaker than the pilot signal strength of P1 (see

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step 918 and col. 15, lines 56-57, where Chheda sets D3 to 5 dB). However, in order to add a base station (P2) to the active set when only one base station is in the active set (P1, where step 910 requires that P1 be placed in the active set if P2 fails step 916, such that, when step 916 is performed, P1 is already determined to be in the active set), the pilot signal strength of the second base station must not be more than 100 dB weaker than the pilot signal strength of P1 (see step 916 and col. 15, lines 40-43, where Chheda sets D2 equal to 100 dB). Thus, Examiner maintains that Chheda discloses “the rules set requiring more stringent conditions be met to add a base station to the active list when the active list includes a first number of base stations as compared to when the active list includes a second number of base stations, the first number being greater than the second number” since Chheda requires that a new base station, P3, be not more than 5 db less than P1 when there are two base stations, P1 and P2, in the active list, as opposed to requiring the new base station, P2, be not more than 100 dB less than P1 when there is only one base station, P1, in the active list.

3. Applicant then asserts that

Even assuming *arguendo* that the “stringent conditions” is taught by ‘D2 being less stringent than D3, D3 being less stringent than D4, D5 and D6 (e.g., D3 = 5 dB, D4-D6 = 2 dB, and D2 = 100 dB), as alleged by the Examiner, it is submitted that the thresholds D2-D6 of Chheda are not added to an “active list.”

However, Examiner never alleged that the thresholds are added to the active list. Rather, Examiner alleges that the thresholds represent the “conditions” used to determine which stations, e.g. P1-P6, are added to the active list (see e.g., Steps 910, 904, 922, 930, and 938 where a differing number of stations are deemed “active” based on the outcome of the “conditions,” seen in Steps 916, 918, 924, 932, and 940, and where the “condition” of steps 924, 932, and 940 is

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more stringent than the condition of step 918, which, in turn, is more stringent than the condition of step 916).

4. Finally, Applicant asserts that Chheda discloses “comparing the strength of a relative pilot signal to the threshold to determine whether to initiate a connection to a particular base station, rather than comparing the active list of a first number of base station [sic] to a second number of base stations, as recited in claim 1.” Examiner asserts that claim 1 does not require “comparing the active list of a first number of base stations to a second number of base stations” as Applicant alleges. Rather, claim 1 discloses that the condition required to be met to add a base station to the active list when the active list includes a first number of base stations is more stringent compared to the condition required to be met to add a base station to the active list when the active list includes a second number of base stations. Thus, the comparison is between the stringency of the conditions, not between active lists.

5. For the above reasons, Examiner maintains that claims 1-5 and 12-13 are obvious in view of the cited prior art.

#### *Claim Objections*

6. Claims 6, 8, and 10 are objected to because of the following informalities: in claim 6, line 5; claim 8, line 5; and claim 10, line 4, “signal strength of a base station” should be “signal strength of any base station”. Appropriate correction is required.

7. Claim 14 is objected to because of the following informalities: in line 13, “stations, the” should be “stations and the” and, in line 14, “a signal strength having a threshold greater than a signal strength” should be “a signal strength greater by a threshold amount than a signal strength”. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-5, 7, and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chheda et al (USPN 6,038,448), of record.

10. Regarding claim 1, Chheda discloses a method of processing handoff information (PSMM: pilot strength measurement message, see col. 6, lines 14-27 and col. 2, line 63-col. 2, line 7) at a network (col. 8, lines 19-42) including a base station and a mobile switching center (col. 5, lines 20-24), comprising: receiving, at the network, handoff information (PSMM) of a mobile station (Fig. 8b; col. 8, lines 19-42; and col. 13, line 49-col. 14, line 2), the handoff information indicating at least a number of base stations in an active list of the mobile station (col. 6, lines 23-27 and col. 12, lines 64-65), the active list being a list of base stations involved in a call of the mobile station (col. 7, lines 17-19); applying a rules set to the handoff information to determine changes in the active list (col. 13, lines 51-60), the rules set requiring more stringent conditions be met to add a base station to the active list when the active list includes a first number of base stations as compared to when the active list includes a second number of base stations, the first number being greater than the second number (Fig. 9; col. 15, lines 31-64) where D2 is less stringent than D3 and D3 is less stringent than D4, D5, and D6; and sending determination results to the mobile station (col. 13, line 66-col. 14, line 2).

Chheda does not expressly disclose in the primary embodiments that the handoff information is soft handoff information. However, Chheda does disclose using handoff information (PSMM) (col. 2, line 63-col. 2, line 7 and col. 6, lines 14-27). Chheda also discloses the use of soft handoffs in order to reduce the probability of a dropped call (col. 6, line 54-col. 7, line 5). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the handoff information be soft handoff information since soft handoffs reduce the probability of a dropped call.

Chheda does not expressly disclose in the primary embodiments that the base station processes the handoff information. However, Chheda does disclose that the network processes the handoff information (col. 8, lines 19-42) where the network includes a base station and a mobile switching center (col. 5, lines 20-24). Chheda also discloses that the base station determines “whether to establish a connection between the mobile unit and one of the base stations based upon the difference in strength between the strongest pilot signal and a corresponding weaker pilot signal (claims 31 and 40). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the base station process the handoff information since Chheda discloses in one embodiment that the base station determines whether to establish a connection or not.

11. Regarding claim 2, Chheda discloses that the applying step applies the rules set to base stations in a potentials list (candidate set), the potentials list being a list of base stations which are potential base stations for the active list (col. 7, lines 9-22 and col. 14, lines 51-61).

12. Regarding claim 3, Chheda discloses that the potentials list is the candidate list in IS-95 standards (col. 7, lines 6-22).

13. Regarding claim 4, Chheda discloses that the applying step moves a potential base station from the potentials list to the active list when the active list contains one base station and the difference in magnitude between the one base station and the potential base station is less than a first threshold (D2) (col. 13, line 49-col. 14, line 2 and col. 15, lines 31-47). Chheda does not expressly disclose that the potential base station has a signal strength greater than a first threshold. However, Chheda does disclose that the “determinations each include using the relative strengths of the pilot signals in determining which connections to establish, which connections to maintain, and which connections to drop. Additional criterion could also look at the absolute strength of the pilot signals contained in the PSMM” (col. 8, lines 30-36). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the potential base station have a signal strength greater than a first threshold in order to use an absolute signal strength, rather than a relative signal strength.

14. Regarding claim 5, Chheda discloses that the applying step moves a potential base station from the potentials list to the active list when the active list contains two or more base stations and the difference in magnitude between the base station with the strongest pilot signal and the potential base station is less than a second threshold (D3), the second threshold (D3) being less than the first threshold (D2) (col. 13, line 49-col. 14, line 2 and col. 15, lines 48-61). Chheda does not expressly disclose that the potential base station has a signal strength greater than a second threshold, the second threshold being greater than the first threshold. However, Chheda does disclose that the “determinations each include using the relative strengths of the pilot signals in determining which connections to establish, which connections to maintain, and which connections to drop. Additional criterion could also look at the absolute strength of the pilot



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signals contained in the PSMM” (col. 8, lines 30-36). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the potential base station have a signal strength greater than a second threshold, the second threshold being greater than the first threshold, in order to use an absolute signal strength, rather than a relative signal strength.

15. Regarding claim 7, Chheda discloses that the signal strength of at least one of the base stations in the active list is the weakest signal strength of base stations in the active list (Fig. 9, where the base station signal strengths are ranked according to strength in step 906 and where each set of active base stations has a station with a highest number, signifying the lowest strength, see e.g. step 904 where P2 is the station with the lowest signal strength in the active list).

16. Regarding claim 12, Chheda discloses that the first number is two or more, and the second number is 1 (col. 13, line 49-col. 14, line 2 and col. 15, lines 31-61).

17. Regarding claim 13, Chheda discloses that the first number is three or more, and the second number is 1 (col. 13, line 49-col. 14, line 2 and col. 15, lines 31-61).

#### ***Allowable Subject Matter***

18. Claims 6 and 8-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not disclose or fairly suggest adding the potential signal only if the signal strength of the potential base station is a third threshold greater than a signal strength of a base station in the active list. Rather, Chheda discloses initially ordering the signal strengths from strongest to weakest and then determining on which list to place a signal starting with the strongest signal (col. 15, lines 2-3) such that each potential signal

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strength must be weaker than signal strengths already in the active list since the strongest signal strengths have already been considered.

19. Claim 14 is allowed. The prior art does not disclose or fairly suggest adding the potential signal only if the signal strength of the potential base station is a threshold greater than a signal strength of a base station in the active list. Rather, Chheda discloses initially ordering the signal strengths from strongest to weakest and then determining on which list to place a signal starting with the strongest signal (col. 15, lines 2-3) such that each potential signal strength must be weaker than signal strengths already in the active list since the strongest signal strengths have already been considered.

### *Conclusion*

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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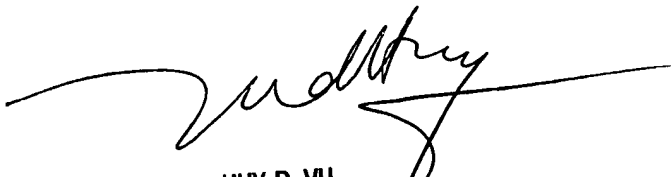
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel J Ryman  
Examiner  
Art Unit 2616

*DJR*

  
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